



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,505	02/20/2004	David P. Bloomfield	X-0132	7580

38393 7590 06/13/2006

CHEVRON SERVICES COMPANY  
LAW DEPARTMENT  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 3725  
HOUSTON, TX 77253-3725

EXAMINER
----------

NECKEL, ALEXA DOROSHENK

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,505

Applicant(s)

BLOOMFIELD ET AL.

Examiner

Alexa D. Neckel

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/13/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The replacement drawings were received on August 11, 2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mandelik et al. (3,771,261).

With respect to claims 1 and 8, Mandelik et al. discloses an apparatus comprising:

a desulphurization unit (6 or 26) for fuel;

a pre-reformer/secondary reformer (44) for converting the reduced sulfur fuel (28, 46) from the desulphurization unit (6 or 26);

a steam reformer (30) (col. 2, lines 26-35) for reforming the mixture (49) from the pre-reformer/secondary reformer (44); and

wherein the steam reformer catalyst bed has an alkaline earth oxide/carbon dioxide fixing material (col. 5, lines 55-60).

With respect to claim 2, the material worked upon (diesel) does not limit an apparatus claim and therefore continues to read on the device of Mandelik et al. MPEP 2115.

With respect to claim 3, Mandelik et al. further disclose a furnace (22) capable of vaporizing (col. 7, lines 46-56).

With respect to claim 5, Mandelik et al. further disclose wherein the product mixture (40) from the reformer (30) can be further treated to remove water and oxides of carbon (col. 8, lines 34-41).

With respect to claims 6, 7 and 9, Mandelik et al. further disclose wherein the catalyst for both the reformer (30) and pre-reformer/secondary reformer (44) can comprise a precious metal catalyst (which would also be capable of acting as a water gas shift catalyst as well as convert hydrocarbon fuel to a mixture of C1 and C2 hydrocarbons) (col. 5, line 46- col. 6, line 8; col. 9, lines 15-16).

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandelik et al. (3,771,261) in view of Buswell et al. (5,360,679).

While Mandelik et al. does teach that it is desirable to treat the product (40) from the reformer (30) to remove water (col. 8, lines 34-41), Mandelik et al. fails to specifically disclose a condenser in order to do this.

Buswell et al. discloses wherein a condenser (182) can be used to remove water from a reformat before the reformat can be fed to a fuel cell. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the condenser of Buswell et al. as the means by which to remove water desired by Mandelik et al. since it is merely the selection of means to remove water from a reformat known to the art and one would have a reasonable expectation of success in using such a water removal device.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandelik et al. (3,771,261) in view of Sechrist et al. (5,965,473).

With respect to claim 10, Mandelik et al. fails to disclose wherein the reformer (30) comprises at least two catalyst beds and a means for diverting feed streams between the beds.

Sechrist et al. teach where reforming catalysts have a tendency to deactivate and require regeneration (col. 1, lines 19-22) and disclose a solution which comprises providing multiple reforming catalyst beds and means by which to divert feed between the various beds (col. 17, line 47-66) to allow for regeneration of the beds. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Sechrist et al. in the device of Mandelik et al. in order to have continuous operation of the system by diverting feed from a bed which needs to be regenerated.

### ***Response to Arguments***

#### **Specification**

The objections to the specification are withdrawn due to applicant's amendments.

#### **Drawings**

The objections to the drawings are withdrawn due to applicant's amendments to the specification and drawings.

#### **35 USC 103**

Applicant's statement that the Stevens reference and the instant invention were commonly owned or subject to an obligation of assignment to the same company at the time the invention was made is sufficient to disqualify the Stevens reference as prior art. Accordingly, the rejections presented in the previous Office Action based upon Rostrop-Nielsen in view of Stevens are withdrawn and new grounds of rejection are presented above.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

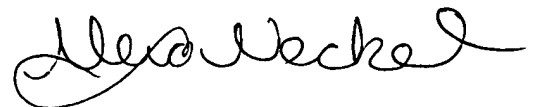
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1764

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexa D. Neckel  
Primary Examiner  
Art Unit 1764

June 7, 2006



ALEXA DOROSHENK NECKEL  
PRIMARY EXAMINER